

CALENDAR ITEM

C19

A 2

02/20/15

S 2

W 26778

M. Schroeder

GENERAL LEASE – PUBLIC AGENCY USE

APPLICANT:

Humboldt Bay Harbor, Recreation and Conservation District

AREA, LAND TYPE, AND LOCATION:

Sovereign land in the Mad River and Eel River salt marshes, including the Salt River, Ropers Slough, McNulty Slough, Hawks Slough, Quill Slough, Moseley Slough, Morgan Slough, Cutoff Slough, and Sevenmile Slough, near the city of Eureka, Humboldt County.

AUTHORIZED USE:

Removal, control, and monitoring of non-native vegetation (invasive cordgrass species) and restoration of native vegetation to the salt marshes.

LEASE TERM:

15 years, beginning February 20, 2015.

CONSIDERATION:

The public use and benefit, with the State reserving the right at any time to set a monetary rent if the Commission finds such action to be in the State's best interests.

SPECIFIC LEASE PROVISIONS:

1. At least 15 days prior to the start of removal activities of invasive cordgrass species, Lessee shall provide notice of the project details and periods of operation to the public and all littoral parcel owners adjacent to the project area.
2. Lessee shall provide annual reports that include narrative descriptions and evaluations of removal activities.

OTHER PERTINENT INFORMATION:

1. The Humboldt Bay Harbor, Recreation and Conservation District has applied for a lease for the proposed project of removal, control, and

CALENDAR ITEM NO. **C19** (CONT'D)

monitoring of invasive cordgrass species (Project) within the salt marshes of the Mad River and Eel River, including the Salt River, Ropers Slough, McNulty Slough, Hawks Slough, Quill Slough, Moseley Slough, Morgan Slough, Cutoff Slough, and Sevenmile Slough. In addition, the project proposes to restore salt marshes with native vegetation and as a result improve fish and wildlife habitat.

2. Invasive cordgrass species is most common in salt and brackish marshes, but also occurs in mudflats and on sand spits. Invasive cordgrass poses a significant threat to the environment by displacing native vegetation within the marshes reducing plant biodiversity, altering ecosystems, and impacting the movement of sediment. If removal, control, and monitoring of invasive cordgrass species does not occur in one salt marsh (e.g., Eel River or Mad River), the seeds of the species can circulate through ocean waters and populate other salt marshes in California and elsewhere. Invasive cordgrass species has adversely impacted many North Coast habitats by taking over salt marshes and affecting existing native vegetation.
3. The project proposes utilizing a combination of two removal methods for the control of invasive cordgrass species. The first method will utilize various mechanical methods, consisting of top mow, grind method, tilling, excavation, disking, crushing, flaming, covering, and flooding. The second method will be application of an herbicide to the invasive cordgrass species. The combination of the two methods has been successful in Washington, Oregon, and San Francisco Bay, California. The plant material will be disposed of on-site.
4. A Programmatic Environmental Impact Report, State Clearinghouse No. 2011012015, was prepared for this project by the California State Coastal Conservancy and certified on April 18, 2013. The California State Lands Commission staff has reviewed such document and Mitigation Monitoring Program prepared pursuant to the provisions of the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21081.6) and adopted by the lead agency.
5. Findings made in conformance with the State CEQA Guidelines (Cal. Code Regs., tit. 14, §§ 15091, 15096) are contained in Exhibit C, attached hereto.

CALENDAR ITEM NO. **C19** (CONT'D)

6. This activity involves lands identified as possessing significant environmental values pursuant to Public Resources Code section 6370 et seq., but such activity will not affect those significant lands. Based upon the staff's consultation with the persons nominating such lands and through the CEQA review process, it is the staff's opinion that the project, as proposed, is consistent with its use classification.

APPROVALS REQUIRED:

U.S. Army Corps of Engineers
California Coastal Commission
California Regional Water Quality Control Board
California Department of Fish and Wildlife

EXHIBITS:

- A. Site and Location Map
- B. Mitigation Monitoring Program
- C. CEQA Findings

RECOMMENDED ACTION:

It is recommended that the Commission:

CEQA FINDING:

Find that a Programmatic Environmental Impact Report (PEIR), State Clearinghouse No. 2011012015, was prepared for this Project by the California State Coastal Conservancy and certified on April 18, 2013, and that the Commission has reviewed and considered the information contained therein.

Adopt the Mitigation Monitoring Program, as contained in Exhibit B, attached hereto.

Adopt the Findings, made in conformance with California Code of Regulations, Title 14, sections 15091 and 15096, subdivision (h), as contained in Exhibit C, attached hereto.

Determine that the Project, as approved, will not have a significant effect on the environment.

SIGNIFICANT LANDS INVENTORY FINDING:

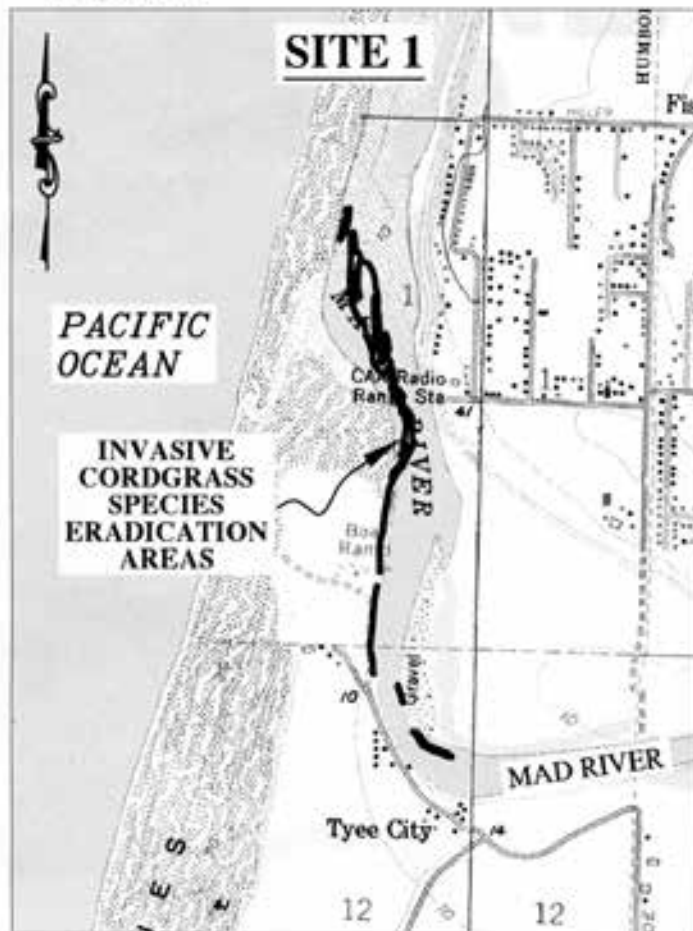
Find that this activity is consistent with the use classification designated by the Commission for the land pursuant to Public Resources Code section 6370 et seq.

CALENDAR ITEM NO. **C19** (CONT'D)

AUTHORIZATION:

Authorize issuance of a General Lease – Public Agency Use to the Humboldt Bay Harbor, Recreation and Conservation District beginning February 20, 2015, for a term of 15 years, for removal, control, and monitoring of invasive cordgrass species and restoration of native vegetation to the salt marshes as shown on Exhibit A attached and by this reference made a part hereof; consideration being the public use and benefit with the State reserving the right at any time to set a monetary rent if the Commission finds such action to be in the State's best interests.

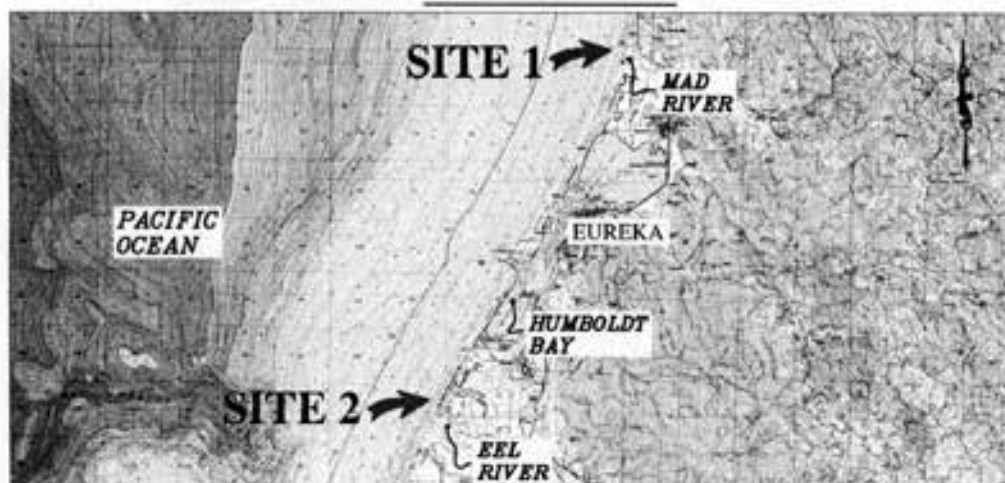
NO SCALE



MAD RIVER, EEL RIVER, SALT RIVER, ROPERS SLOUGH, MCNULTY SLOUGH, HAWKS SLOUGH, QUILL SLOUGH, MOSELEY SLOUGH, MORGAN SLOUGH, CUTOFF SLOUGH, AND SEVENMILE SLOUGH
INVASIVE CORDGRASS SPECIES REMOVAL PROJECT

NO SCALE

LOCATION



MAP SOURCE: USGS QUAD

This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by the Lessee or other parties and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property.

Exhibit A

W 26778
HUMBOLDT BAY HARBOR,
RECREATION AND
CONSERVATION DISTRICT
GENERAL LEASE- PUBLIC
AGENCY USE
HUMBOLDT COUNTY



JWP 08/25/14

EXHIBIT B
CALIFORNIA STATE LANDS COMMISSION
MITIGATION MONITORING PROGRAM
HUMBOLDT BAY REGIONAL INVASIVE SPARTINA CONTROL
AND NATIVE SALT MARSH RESTORATION
(State Clearinghouse No. 2011012015)

The California State Lands Commission (Commission) is a responsible agency under the California Environmental Quality Act (CEQA) for the Humboldt Bay Regional Invasive Spartina Control and Native Salt Marsh Restoration (Project). The CEQA lead agency for the Project is the California Coastal Conservancy.

In conjunction with approval of this Project, the Commission adopts this Mitigation Monitoring Program (MMP) for the implementation of mitigation measures for the portion(s) of the Project located on Commission lands. The purpose of a MMP is to discuss feasible measures to avoid or substantially reduce the significant environmental impacts from a project identified in an Environmental Impact Report (EIR) or a Mitigated Negative Declaration. State CEQA Guidelines section 15097, subdivision (a), states in part:¹

In order to ensure that the mitigation measures and project revisions identified in the EIR or negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

The lead agency has adopted a MMP for the whole of the Project (see Exhibit B, Attachment B-1) and remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with its program. The Commission's action and authority as a responsible agency apply only to the mitigation measures listed in Table B-1 below.

¹ The State CEQA Guidelines are found at California Code of Regulations, Title 14, section 15000 et seq.

Table B-1. Project Impacts and Applicable Mitigation Measures.

Potential Impact	Mitigation Measure (MM) ²
AV-1: Potentially Significant Effect on Scenic Vistas	MM AV-1: Post Educational Signs.
	MM AV-2: Limit covering.
AV-2: Potentially Significant Effect on Visual Continuity	MM AV-1: Post Educational Signs.
AV-3: Potentially Significant Effect Due to Vegetation Clearing	MM AV-1: Post Educational Signs.
AQ-3: Herbicide Effects on Air Quality	MM HHM-4: Avoid Health Effects to the Public and Environment from Herbicide Application.
BIO-1: Effects on Special-Status Fish Species and their Critical Habitat and Essential Fish Habitat from Mechanical Spartina Removal Methods	MM BIO-1: Minimize Effects of Mechanical Spartina Removal Methods to Special-Status Fish Species.
BIO-2: Effects on Special-Status Birds	MM BIO-2: Minimize Noise Effects.
	MM BIO-3: Avoid Northern Harrier and Short-Eared Owl Nests.
BIO-3: Direct and Indirect Effects to Special-Status Plant Species from Mechanical or Chemical Spartina Removal Methods	MM BIO-4: Minimize Impacts to Special-Status Plant Species.
BIO-4: Effects to Animal Species from Chemical Spartina Removal Methods	MM HHM-2: Accidents Associated with Release of Chemicals and Motor Fuel.
	MM WQ-1: Managed Herbicide Control.
	MM WQ-2: Minimize Herbicide Spill Risks.
BIO-6: Potential Impacts of Mechanical and Chemical Methods to Eelgrass	MM BIO-5: Avoid Impacts to Eelgrass.
BIO-7: Potential Effects on Marine Mammals	MM BIO-6: Reduce Noise near Marine Mammals.
BIO-8: Direct Impacts to Nesting Northern Harrier and Short-Eared Owl	MM BIO-3: Avoid Northern Harrier and Short-Eared Owl Nests.
CR-1: Mechanical Treatments having Potentially Significant Impacts on Archeological Resources	MM CR-1: Worker Awareness.
	MM CR-2: Site-Specific Planning for Artifacts.
CR-2: Mechanical Treatments having Potentially Significant Impacts on Human Remains	MM CR-3: Site Specific Planning for Human Remains.
	MM CR-1: Worker Awareness.
GS-1: Potentially Significant Loss of Soil from Mechanical Methods	MM GS-1: Erosion Control.
HHM-1: Safety Concerns for Workers	MM HHM-1: Worker Injury from Accidents Associated with Manual and Mechanical Non-native Spartina Treatment.
HHM-2: Accidental Spills	MM HHM-2: Accidents Associated with Release of Chemicals and Motor Fuel.

² See Attachment B-1 for the full text of each MM taken from the MMP prepared by the CEQA lead agency.

HHM-3: Toxicity of Imazapyr and Surfactants	MM HHM-3: Worker Health Effects from Herbicide Application.
	MM HHM-4: Avoid Health Effects to the Public and Environment from Herbicide Application.
	MM HHM-5: Health Effects to Workers, the Public and the Environment Due to Accidents Associated with Chemical Spartina Treatment.
HHM-4: Existing Hazardous Waste Sites Near Potential Spartina Control Sites	MM HHM-6: Assess Existing Contamination.
WQ-1: Degradation of Water Quality Due to Herbicide Application	MM WQ-1: Managed Herbicide Control.
WQ-2: Herbicide Spills	MM WQ-2: Minimize Herbicide Spill Risks.
	MM HHM-2: Accidents Associated with Release of Chemicals and Motor Fuel.
WQ-3: Fuel or Petroleum Spills	MM WQ-3: Minimize Fuel and Petroleum Spill Risks.
	MM HHM-2: Accidents Associated with Release of Chemicals and Motor Fuel.
WQ-4: Pollutant/Contaminant Remobilization	MM HHM-6: Assess Existing Contamination.
WQ-5: Potentially Significant Loss of Soil from Mechanical Methods	MM GS-1: Erosion Control.
WQ-6: Erosion/Sediment Control at Staging and Access Areas	MM WQ-6: Designate Ingress/Egress Routes.
WQ-7: Decreased Oxygen in Receiving Waters	MM WQ-7: Removal of Wrack.
WQ-8: Placement of Temporary Structures in a FEMA Flood Zone	MM WQ-8: Approval of Structures in Floodplains.
LU-1: Herbicide Overuse or Overspray	MM LU-1: Use Certified Herbicide Applicators. MM LU-2: Compliance Monitors. MM LU-3: Mechanical Methods near Agriculture.
LU-2: Public Access	MM LU-4: Posting Notices and Limiting Access. MM LU-5: Do Not Treat Spartina During Peak Public Use Periods.
N-1: Noise Impacts to Residential Areas	MM N-1: Use Relatively Quiet Brushcutters. MM N-2: Selective Use of the Marsh Master. MM N-3: Limit Hours of Operation.

ATTACHMENT B-1

Mitigation Monitoring Program Adopted by the California Coastal Conservancy

Exhibit 4. Final PEIR (Including MMRP)

Mitigation	Implementing Responsibility	Monitoring Responsibility	Timing
<p>MITIGATION AV-1: Post Educational Signs. Educational signs shall be posted in areas where public use is high. The signs will explain Spartina's ecological impacts and describe the project. Increased public understanding of the project will improve the public's reaction to the temporary adverse change to the scenic marsh vista.</p>	Coordinating Entity Project Manager	Coordinating Entity Project Manager	Beginning of first treatment season and each treatment season thereafter
<p>MITIGATION AV-2: Limit covering. In any given area that is visible from a public vantage point, including roads, highways and other areas of relatively high public use, covering shall be limited to 0.5 acres.</p>	Coordinating Entity Project Manager	Coordinating Entity Project Manager	During control
<p>MITIGATION AQ-1: Dust Control. Apply dust control measures where treatment methods may produce visible dust clouds and where sensitive receptors (i.e., houses, schools, hospitals) are located within 500 ft of the treatment site. The following dust control measures shall be included:</p> <ul style="list-style-type: none"> Suspend activities when winds are too great to prevent visible dust clouds from affecting sensitive receptors; and Limit traffic speeds on any dirt access roads to 15 mi per hour. 	Spartina control contractor	Coordinating Entity Project Manager	During control
<p>MITIGATION AQ-2: Smoke and Ash Emissions. The Management Area is within NCUAQMD Smoke Management Zones 1 and 2. Therefore, for prescribed burns, notification of and coordination with NCUAQMD and a local fire agency shall happen well in advance, prior to initiating the burn. Depending upon the quantity of material to be burned, the District APCO may request that a burn authorization number be obtained prior to ignition. On a project specific basis, a burn permit may be required with NCUAQMD to address potential issues with smoke and as a component of a smoke management plan, if deemed necessary. Additional notification to the local fire agency and/or department may also be required as deemed appropriate by the APCO. The following shall be conducted as a part of this mitigation measure:</p> <ul style="list-style-type: none"> Initiate consultation with the District APCO by calling (707) 443-3093 (or the current phone number) to determine if the following would be required for the site specific project: <ul style="list-style-type: none"> Burn authorization number, 	Coordinating Entity Project Manager	Coordinating Entity Project Manager	At least one month before initiating burns

Exhibit 4. Final PEIR (Including MMRP)

Mitigation	Implementing Responsibility	Monitoring Responsibility	Timing
<ul style="list-style-type: none"> ○ Burn permit, and/or ○ Smoke management plan, as well as ○ Consultation with additional agencies such as the local fire agency and/or department. • If the treatment is occurring within the jurisdiction of a local fire agency and/or department, initiate consultation well in advance, prior to the initiating the burn. 			
<p>MITIGATION BIO-1: Minimize Effects of Mechanical Spartina Removal Methods to Special Status Fish Species. On a project specific basis, a habitat analysis shall be done to determine if special status fish species have the potential to occur. If they could occur, then surveys may be done to establish that these species are absent, using protocols approved by USFWS or NMFS. If such surveys are not conducted, then the species will be assumed present. If special status fish species are present, then <i>Spartina</i> control methods will be selected that minimize potential impacts. To minimize erosion effects, control methods that are most likely to cause erosion (i.e., grinding, tilling, disking and digging/excavating) will not occur within 15 ft of any aquatic habitat containing special status fish species, but this distance could be increased depending on site specific conditions, such as soil stability and bank slopes. Additionally, amphibious vehicles will not contact the channel substrate where special status fish species are present and the vehicles will be operated in such a manner that they avoid causing erosion into the channels. Furthermore, no flooding will be conducted in areas where special status fish species are present. Treatments that do not involve ground disturbance, such as top mowing, crushing, chemical treatment and covering will be the only methods used in close proximity (e.g., within 15 ft) to special status fish species. This mitigation measure is intended to avoid take as defined by the ESA and California ESA.</p>	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	Habitat analysis to be conducted at least one month before treatment

Exhibit 4. Final PEIR (Including MMRP)

Mitigation	Implementing Responsibility	Monitoring Responsibility	Timing
<p>MITIGATION BIO-2: Minimize Noise Effects. Breeding special status birds could be present based on habitat and time of year. The breeding season is generally October through mid-August. On a project specific basis, a habitat analysis shall be done to determine if special status bird species have the potential to occur. If the habitat would support special status birds, and if eradication is planned to occur when these birds may be breeding, then surveys will be done to establish that these species are absent, using protocols approved by USFWS. If such surveys are not conducted, then the species will be assumed present. Response of birds to noise varies by species as well as site specific factors including ambient noise levels, topography and vegetation. A limit of 60 dB reaching breeding songbirds has recently been advocated for the by the California Department of Fish and Wildlife (see ICF Jones and Stokes 2009). For the purpose of this PEIR, if breeding birds are known or assumed present within close proximity to <i>Spartina</i> control activities than actions will be taken to ensure that ≤60 dB reaches the breeding area. Actions may include the use of sound measuring devices to determine the range of noise production and limit <i>Spartina</i> control methods accordingly (i.e., use quieter methods near breeding special-status birds).</p>	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	Habitat analysis to be conducted at least 1 month before treatment. Breeding bird survey to be conducted no more than one week prior to treatment. Delineation of exclusion zones prior to treatment.
<p>MITIGATION BIO-3: Avoid Northern Harrier and Short-Eared Owl Nests. The breeding season is March-August for northern harriers (Loughman and McLandress 1994) and March-July for short-eared owls (Gill 1977). If Spartina control activities are planned to occur during these periods (i.e., between March-August) then a qualified biologist will assess whether there is potential nesting habitat for northern harrier or short-eared owls. If there is potential habitat, it will be avoided or a qualified biologist will survey the potential habitat immediately prior to Spartina control work and if nests are found then a minimum 300 ft buffer zone will be delineated. The buffer zone will be avoided by Spartina control workers and equipment.</p>	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	Habitat analysis to be conducted at least 1 month before treatment. Breeding bird survey to be conducted no more than one week prior to treatment. Delineation of exclusion zones prior to treatment.
<p>MITIGATION BIO-4: Minimize Impacts to Special Status Plant Species. On a site specific basis, a habitat analysis shall be done to determine if special status plant species have the potential to occur. If they could occur, then surveys may be done to establish that these species are absent, using protocols approved by CDFW. If such surveys are not conducted, then the species will be assumed present. If special status plant species are present, then <i>Spartina</i> control methods will be selected that avoid or minimize</p>	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	Surveys for annuals in the spring immediately prior to treatment. For perennials, surveys may occur in the prior year. Delineation of exclusion areas and worker training prior to treatment.

Exhibit 4. Final PEIR (Including MMRP)

Mitigation	Implementing Responsibility	Monitoring Responsibility	Timing
potential impacts. Staked locations of special status plant populations or special status plant habitat shall be recorded, and field crews on foot or in vehicles shall be instructed to avoid and protect special status plant populations or plant habitat. Impact to the endangered dune plants beach layia and Humboldt Bay wallflower will be avoided by selecting access routes that do not contain these plants. For Humboldt Bay owl's clover and Point Reyes bird's beak, avoidance is determined not to be necessary because temporary effects during <i>Spartina</i> control are mitigated by the explosive increase in population that has been demonstrated after <i>Spartina</i> control (Pickart 2012). For other annual special status plants such as Western sand spurrey, avoidance shall occur by using only treatment methods that are highly selective; for example heavy equipment will not be operated where these plants or their habitat occur. For perennial plants such as Lyngbye's sedge, a qualified botanist shall stake out locations of special status plants and provide training to control crews to ensure that they minimize impacts to these plants. If special status plant populations or habitat occur near the high tide line, wrack and large deposits of mown <i>Spartina</i> shall be removed during the growing season. Special status plant populations shall be covered with fabric adjacent to areas sprayed with herbicide, or spray-drift barriers made of plastic or geo textile (aprons or tall silt fences) shall be installed. If accidental exposure to spray drift occurs, affected plants shall be thoroughly washed with silt-clay suspensions. To avoid trampling of special status plant species, in areas where frequent access will occur, paths shall be marked and used that avoid special status plant species to the maximum extent possible.			
MITIGATION BIO-5: Avoid Impacts to Eelgrass. Workers removing <i>Spartina</i> in areas with the potential for eelgrass shall be trained to recognize eelgrass and the mudflats that are habitat for eelgrass. Training shall be conducted by a qualified biologist. Only methods that avoid physical disturbance to eelgrass plants shall be used in close proximity to eelgrass, such as top mowing and excavation. With this mitigation measure, there will be no impact to eelgrass.	Coordinating Entity Project Manager and <i>Spartina</i> control contractor	Coordinating Entity Project Manager	Training prior to treatment. Exclusion during treatment.
MITIGATION BIO-6: Reduce Noise near Marine Mammals. If marine mammals are present within 200 ft of <i>Spartina</i> control operations, then methods which cause relatively high levels of noise (i.e., brushcutters, the Marsh Master and airboats) shall not be used. Other methods which do not generate a relatively high level of noise can be used.	<i>Spartina</i> control contractor	Coordinating Entity Project Manager	During treatment

Exhibit 4. Final PEIR (Including MMRP)

Mitigation	Implementing Responsibility	Monitoring Responsibility	Timing
MITIGATION CR-1: Worker Awareness. Workers shall be made aware of the potential of uncovering artifacts or human remains, and instructed to cease work should any artifacts or human remains be found, and to contact the California Native American Heritage Commission (CNAHC), National Crime Information Center and/or County Coroner as appropriate. When treatment is allowed to begin again, areas identified as potentially having artifacts will be treated with methods that do not disturb the soil, such as top mowing, crushing and chemical treatment.	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	Training prior to treatment. Response to artifacts or remains during treatment
MITIGATION CR-2: Site Specific Planning for Artifacts. Site specific planning will include a consultation with the Wiyot Tribe to determine the likelihood that artifacts are present. If there are indications that artifacts are likely to be found, soil disturbing methods shall be avoided.	Coordinating Entity Project Manager	Coordinating Entity Project Manager	Planning at least one month prior to treatment
MITIGATION CR-3: Site Specific Planning for Human Remains. If, during site specific planning, indications are that human remains are likely to be found (e.g., based on literature or communications with representatives from a Tribe), soil disturbing methods shall not be used until the remains are located and properly removed. If the coroner determines that the remains may be Native American, the coroner will contact CNAHC. CNAHC staff will notify the most likely descendants of the deceased. The descendants may, with permission of the land owner or representative, "inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods" (Public Resources Code Section 5097.98). The descendants must make their recommendations within 48 h of being contacted by CNAHC. The land owner will insure that the area within the immediate vicinity of the remains is not further disturbed or damaged until the land owner and the most likely descendants have "discussed and conferred" reasonable options.	Coordinating Entity Project Manager	Coordinating Entity Project Manager	Planning at least one month prior to treatment
MITIGATION GS-1/WQ-5: Erosion Control. Spartina control methods which directly impact the soil (i.e., grinding, tilling, disking, digging and excavation) shall not be conducted on salt marsh areas that are within 15 ft of a salt marsh edge that is directly exposed to wave action. Other control methods can be used in these areas. This mitigation measure only applies to salt marsh edges along Humboldt Bay proper where wave action is relatively	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	During treatment

Exhibit 4. Final PEIR (Including MMRP)

Mitigation	Implementing Responsibility	Monitoring Responsibility	Timing
high, not attached sloughs/channels nor the Eel River or Mad River estuaries. Future research may reveal that control methods that directly impact the soil do not result in a significant level of erosion and that this mitigation is not necessary.			
MITIGATION HHM-1: Worker Injury from Accidents Associated with Manual and Mechanical Non-native <i>Spartina</i> Treatment. A health and safety plan shall be developed to identify and educate workers engaged in <i>Spartina</i> removal activities. Appropriate safety procedures and equipment, including hearing, eye, hand and foot protection, and proper attire, shall be used by workers to minimize risks associated with manual and mechanical treatment methods. Workers shall receive safety training appropriate to their responsibilities prior to engaging in treatment activities.	Coordinating Entity Project Manager and <i>Spartina</i> control contractor	Coordinating Entity Project Manager	Planning at least one month prior to treatment. Training prior to treatment.
MITIGATION HHM-2: Accidents Associated with Release of Chemicals and Motor Fuel. Contractors and equipment operators on site during treatment activities will be required to have emergency spill cleanup kits immediately accessible. If fuel storage containers are utilized exceeding a single tank capacity of 660 gallons or cumulative storage greater than 1,320 gallons, a Hazardous Materials Spill Prevention Control and Countermeasure Plan (HMSPCCP) would be required and approved by the NCRWQCD. The HMSPCCP regulations are not applicable for chemicals other than petroleum products; therefore, the contractor shall prepare a spill prevention and response plan for the specific chemicals utilized during treatment activities. This mitigation is intended to be carried-out in conjunction with Mitigation WQ-2.	<i>Spartina</i> control contractor	Coordinating Entity Project Manager	Planning at least one month prior to treatment. Implementation during treatment.
Mitigation HHM-3: Worker Health Effects from Herbicide Application. Appropriate health and safety procedures and equipment, as described on the herbicide or surfactant label, including PPE as required, shall be used by workers to minimize risks associated with chemical treatment methods. Mixing and applying herbicides shall be restricted to certified or licensed herbicide applicators	<i>Spartina</i> control contractor	Coordinating Entity Project Manager	During treatment
MITIGATION HHM-4: Avoid Health Effects to the Public and Environment from Herbicide Application. For areas targeted for application of herbicides that are within 500 ft of human sensitive receptors (i.e., houses, schools, hospitals), prepare and implement an herbicide drift management plan to reduce the	Coordinating Entity Project Manager and <i>Spartina</i> control	Coordinating Entity Project Manager	Planning at least one month prior to treatment. Implementation during treatment.

Exhibit 4. Final PEIR (Including MMRP)

Mitigation	Implementing Responsibility	Monitoring Responsibility	Timing
<p>possibility of chemical drift into populated areas. The Plan shall include the elements listed below. To minimize risks to the public, mitigation measures for chemical treatment methods related to timing of herbicide use, area of treatment, and public notification, shall be implemented by entities engaging in treatment activities as identified below:</p> <ul style="list-style-type: none"> • Coordinate herbicide applications with the County Agricultural Commissioner. Identify nearby sensitive areas (e.g., houses, schools, hospitals) and/or areas that have non-target vegetation that could be affected by the herbicide and provide advanced notification. • Establish buffer zones to avoid affecting sensitive receptors. • Identify the type of equipment and application techniques to be used in order to reduce the amount of small droplets that could drift into adjacent areas. Consult with herbicide manufacturer for proper application instructions and warnings. • Herbicide shall not be applied when winds are below 3 mile per hour or in excess of 10 mi per hour or when inversion conditions exist (consistent with Supplemental California Manufacturer Labeling), or when wind could carry spray drift into inhabited areas. This condition shall be strictly enforced by the implementing entity. Herbicide applications should not be conducted when surface-based inversions are present. Refer to Section 4.7, Air Quality, for discussion on inversions. The site-specific work plan should identify how meteorological conditions would be obtained. • Signs shall be posted at and/or near any public trails, boat launches, or other potential points of access to herbicide application sites a minimum of one week prior to treatment. • Application of herbicides shall be avoided near areas where the public is likely to contact water or vegetation. • At least one week prior to application, signs informing the public of impending herbicide treatment shall be posted at prominent locations within a conservative 500-foot radius of treatment sites where sensitive receptors could be affected. Schools and hospitals within 500 ft of any treatment site shall be separately noticed at least one week prior to the application. • No surfactants containing nonylphenol ethoxylate will be used. 	contractor		
<p>MITIGATION HHM-5: Health Effects to Workers, the Public and the Environment Due to Accidents Associated with Chemical Spartina Treatment. Appropriate health and safety procedures and equipment shall be used to minimize risks</p>	Coordinating Entity Project Manager and	Coordinating Entity Project Manager	Planning at least one month prior to treatment. Implementation during

Exhibit 4. Final PEIR (Including MMRP)

Mitigation	Implementing Responsibility	Monitoring Responsibility	Timing
associated with <i>Spartina</i> treatment methods, including exposure to or spills of fuels, petroleum products, and lubricants. These shall include the preparation of a health and safety plan, a spill contingency plan, and if threshold onsite storage values are exceeded, an HMSPCCP.	Spartina control contractor		treatment.
MITIGATION HHM-6/WQ-4: Assess existing contamination. For projects where ground disturbance methods (such as digging or excavation) or imazapyr application are considered, a preliminary assessment shall be performed to determine the potential for contamination in sediments prior to initiating treatment. The preliminary assessment shall include (1) review of existing site data and (2) evaluation of historical site use and/or proximity to possible contaminant sources. If the preliminary assessment finds a potential for historic sediment contamination, an appropriate sediment sampling and analysis guide shall be followed and implemented, or soil contamination shall be assumed to be present. If contaminants with a known potential for synergistic effects with imazapyr are present or assumed to be present at levels higher than background levels that would result in synergistic effects, an alternative treatment method (that shall not disturb sediment or apply imazapyr) will be implemented, such as repeated top-mowing, or the project shall apply to the Regional Water Board for site-specific Waste Discharge Requirements (WDRs). If contaminants are present or assumed to be present at levels higher than background levels (but below levels that might trigger site cleanup), and these contaminants raise concerns for potential impacts from ground disturbance but not from synergistic effects due to imazapyr application, treatment methods that shall not disturb sediment (e.g., top mowing or imazapyr application) shall be used, or the specific project shall apply to the Regional Water Board for site-specific WDR. If significant contamination that warrants site cleanup is identified, sampling information shall be provided to the U.S. Environmental Protection Agency or other appropriate authority.	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	Planning at least one month prior to treatment. Implementation during treatment.
MITIGATION WQ-1: Managed Herbicide Control. Herbicides shall be applied directly to plants and at low or receding tide to minimize the potential application of herbicide directly on the water surface, as well as to ensure proper dry times before tidal inundation. Herbicides shall be applied by a certified applicator and in accordance with application guidelines and the manufacturer label. The Control Program shall obtain coverage under the statewide General NPDES Permit for the Discharge of Aquatic Pesticides for	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	Obtain permit coverage prior to treatment. Implementation during treatment.

Exhibit 4. Final PEIR (Including MMRP)

Mitigation	Implementing Responsibility	Monitoring Responsibility	Timing
Aquatic Weed Control in Waters of the United States (SWRCB 2004). The specific measures that will be required are not known at this time.			
MITIGATION WQ-2: Minimize Herbicide Spill Risks. Herbicides shall be applied by or under the direct supervision of trained, certified or licensed applicators. Herbicide mixtures shall be prepared by, or under the direct supervision of trained, certified or licensed applicators. Storage of herbicides and surfactants on or near project sites shall be allowed only in accordance with a spill prevention and containment plan approved by the NCRWQCD; on-site mixing and filling operations shall be confined to areas appropriately bermed or otherwise protected to minimize spread or dispersion of spilled herbicide or surfactants into surface waters. This mitigation is intended to be carried out in conjunction with Mitigation HMM-2.	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	Planning at least one month prior to treatment. Implementation during treatment.
MITIGATION WQ-3: Minimize Fuel and Petroleum Spill Risks. Fueling operations or storage of petroleum products shall be maintained off-site, and a spill prevention and management plan shall be developed and implemented to contain and clean up spills. Transport vessels and vehicles, and other equipment (e.g., mowers) shall not be serviced or fueled in the field except under emergency conditions; hand-held gas-powered equipment shall be fueled in the field using precautions to minimize or avoid fuel spills within the marsh. For example, gas cans will be placed on an oil drip pan with a PIG® Oil-Only Mat Pad placed on top to prevent oil/gas contamination. Only vegetable oil-based hydraulic fluid will be used in heavy equipment and vehicles during <i>Spartina</i> control efforts. When feasible, biodiesel will be used instead of petroleum diesel in heavy equipment and vehicles during <i>Spartina</i> control efforts. Other, specific BMPs shall be specified as appropriate to comply with the Basin Plan and the other applicable Water Quality Certifications and/or NPDES requirements. This mitigation is intended to be carried out in conjunction with Mitigation HMM-2 in order to reduce potential impacts to less than significant level.	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	Planning at least one month prior to treatment. Implementation during treatment.
MITIGATION WQ-6: Designate Ingress/Egress Routes. Designated ingress/egress routes shall be established at control sites to minimize temporarily disturbed areas. Where areas adjacent to staging and stockpile areas are erosion prone, the extent of staging and stockpile areas shall be minimized by flagging their boundaries. An erosion/sediment control plan (ESCP) shall be developed for erosion prone areas outside the treatment	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	Routes shall be established during planning, at least one month prior to treatment. Implementation during treatment.

Exhibit 4. Final PEIR (Including MMRP)

Mitigation	Implementing Responsibility	Monitoring Responsibility	Timing
area where greater than ¼ acre of ground disturbance may occur as a result of ingress/egress, access roads, staging and stockpile areas. The ESCP shall be developed by a qualified professional and identify BMPs for controlling soil erosion and discharge of treatment-related contaminants. The ESCP shall be prepared prior to any treatment activities, and implemented during construction.			
MITIGATION WQ-7: Removal of Wrack. During site specific planning, tidal circulation will be visually assessed. In areas with relatively low tidal circulation, it will either be assumed that DO levels are depressed or monitoring will be conducted to determine if DO levels are depressed. In treatment areas located within or adjacent to waters known or expected to have depressed DO, if wrack is generated during the treatment process, the wrack shall be removed from the treatment area subject to tidal inundation or mulched finely and left in place.	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	Identification of areas of concern during planning, at least one month prior to treatment. Implementation during treatment.
MITIGATION WQ-8: Approval of Structures in Floodplains. Temporary structures used to impound water for submerging <i>Spartina</i> including but not limited to earthen dikes, cofferdams, inflatable dams, geotextile tubes or concrete ecology blocks that are proposed for placement in a regulatory FEMA flood zone shall be reviewed and approved by the local floodplain administrator prior to placement.	Coordinating Entity Project Manager	Coordinating Entity Project Manager	Approval prior to treatment
MITIGATION LU-1: Use Certified Herbicide Applicators. Herbicides will only be applied by certified applicators.	Spartina control contractor	Coordinating Entity Project Manager	During treatment
MITIGATION LU-2: Compliance Monitors. Applicators shall be assigned a compliance monitor who observes that spray does not reach agricultural fields.	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	During treatment
MITIGATION LU-3: Mechanical Methods near Agriculture. If crops (including aquaculture crops such as oysters and clams) are growing in the vicinity of spraying, such that these crops would be more difficult to sell even if herbicides are undetectable, mechanical methods of treatment shall be selected.	Coordinating Entity Project Manager	Coordinating Entity Project Manager	During planning, at least one month prior to treatment

Exhibit 4. Final PEIR (Including MMRP)

Mitigation	Implementing Responsibility	Monitoring Responsibility	Timing
MITIGATION LU-4: Posting Notices and Limiting Access. Public safety shall be ensured by posting notices and limiting access during treatment periods. Public notice shall be posted at the entrances of public lands, at trailheads, and on the websites of agencies responsible for the public lands, such as HBNWR. If members of the public access lands during treatment, the field supervisor shall have the authority to ask them to leave for their safety.	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	Post notices one week prior to treatment. Monitor public access during treatment.
MITIGATION LU-5: Do not treat Spartina during peak public use periods: Although public use is minimal in the salt marshes where Spartina primarily occurs, there is some use, particularly by waterfowl hunters. Spartina treatment will not occur in waterfowl hunting areas during periods of time when hunters are active. If other peak periods of public use are identified in Spartina infested areas then control efforts will also avoid these time periods.	Coordinating Entity Project Manager	Coordinating Entity Project Manager	During treatment
MITIGATION N-1: Use Relatively Quiet Brushcutters. All brushcutters shall be new and quieter models, with noise not exceeding 90 dB.	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	During treatment
MITIGATION N-2: Selective Use of the Marsh Master. Avoid treatment that uses the Marsh Master, if residential receptors are within 800 ft.	Coordinating Entity Project Manager	Coordinating Entity Project Manager	During planning, at least one month prior to treatment
MITIGATION N-3: Limit Hours of Operation. Within 3,200 ft of homes, hours of operation shall be within times that residents would be the least disturbed, as in during work and school hours, and avoiding early morning or early evening.	Coordinating Entity Project Manager and Spartina control contractor	Coordinating Entity Project Manager	During treatment

EXHIBIT C – HUMBOLDT BAY REGIONAL INVASIVE SPARTINA CONTROL AND NATIVE SALT MARSH RESTORATION

CALIFORNIA STATE LANDS COMMISSION STATEMENT OF FINDINGS

1.0 INTRODUCTION

The California State Lands Commission (CSLC), acting as a responsible agency under the California Environmental Quality Act (CEQA), makes these findings to comply with CEQA as part of its discretionary approval to authorize issuance of a General Lease – Public Agency Use, to Humboldt Bay Harbor, Recreation and Conservation District (District), for use of sovereign lands associated with the proposed Humboldt Bay Regional Invasive Spartina Control and Native Salt Marsh Restoration (Project). (See generally Pub. Resources Code, § 21069; State CEQA Guidelines, § 15381.)¹ The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions. (Pub. Resources Code, §§ 6301, 6306.) All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust.

The CSLC is a responsible agency under CEQA for the Project because the CSLC must approve a lease for the Project to go forward and because the State Coastal Conservancy (SCC), as the CEQA lead agency, has the principal responsibility for approving the Project and has completed its environmental review under CEQA. The SCC analyzed the environmental impacts associated with the Project in a Final Programmatic Environmental Impact Report (PEIR) (State Clearinghouse [SCH] No. 2011012015) and, in April 2013, certified the EIR and adopted a Mitigation Monitoring and Reporting Program (MMRP) and Findings.

The Project involves the eradication of the invasive cordgrass species *Spartina densiflora* (Spartina) from all lands within the Mad River estuary, Humboldt Bay and the Eel River estuary in Humboldt County, California (Management Area) in collaboration with the larger West Coast invasive Spartina eradication program.

The SCC determined that the Project could have significant environmental effects on the following environmental resources:

- Aesthetic/visual resources
- Air quality
- Biological resources
- Cultural resources

¹ CEQA is codified in Public Resources Code section 21000 et seq. The State CEQA Guidelines are found in California Code of Regulations, Title 14, section 15000 et seq.

- Geology/soils
- Hazards and hazardous materials
- Hydrology and water quality
- Land use
- Noise

Spartina eradication within the CSLC's jurisdiction could have significant environmental effects on all of the above resource areas.

In certifying the Final PEIR and approving the Project, the SCC imposed various mitigation measures for Project-related significant effects on the environment as conditions of Project approval and concluded that Project-related impacts would be substantially lessened with implementation of these mitigation measures such that the impacts would be less than significant.

As a responsible agency, the CSLC complies with CEQA by considering the PEIR and reaching its own conclusions on whether, how, and with what conditions to approve a project. In doing so, the CSLC may require changes in a project to lessen or avoid the effects, either direct or indirect, of that part of the project which the CSLC will be called on to carry out or approve. In order to ensure the identified mitigation measures and/or project revisions are implemented, the CSLC adopts the Mitigation Monitoring Program (MMP) as set forth in Exhibit B as part of its Project approval.

2.0 FINDINGS

The CSLC's role as a responsible agency affects the scope of, but not the obligation to adopt, findings required by CEQA. Findings are required under CEQA by each "public agency" that approves a project for which an EIR has been certified that identifies one or more significant impacts on the environment (Pub. Resources Code, § 21081, subd. (a); State CEQA Guidelines, § 15091, subd. (a).) Because the EIR certified by the SCC for the Project identifies potentially significant impacts that fall within the scope of the CSLC's approval, the CSLC makes the Findings set forth below as a responsible agency under CEQA. (State CEQA Guidelines, § 15096, subd. (h); *Resource Defense Fund v. Local Agency Formation Comm. of Santa Cruz County* (1987) 191 Cal.App.3d 886, 896-898.)

While the CSLC must consider the environmental impacts of the Project as set forth in the EIR, the CSLC's obligation to mitigate or avoid the direct or indirect environmental impacts of the Project is limited to those parts which it decides to carry out, finance, or approve (Pub. Resources Code, § 21002.1, subd. (d); State CEQA Guidelines, §§ 15041, subd. (b), 15096, subds. (f)-(g).) Accordingly, because the CSLC's exercise of discretion involves only issuing a General Lease – Public Agency Use for this Project, the CSLC is responsible for considering only the environmental impacts related to lands or resources subject to the CSLC's jurisdiction. With respect to all other impacts associated with implementation of the Project, the CSLC is bound by the legal presumption that the EIR fully complies with CEQA.

The CSLC has reviewed and considered the information contained in the Project EIR. All significant adverse impacts of the Project identified in the EIR relating to the CSLC's approval of a General Lease – Public Agency Use, which would allow the implementation of the Humboldt Bay Regional Spartina Eradication Plan, are included herein and organized according to the resource affected. These Findings, which reflect the independent judgment of the CSLC, are intended to comply with CEQA's mandate that no public agency shall approve or carry out a project for which an EIR has been certified that identifies one or more significant environmental effects unless the agency makes written findings for each of those significant effects. Possible findings on each significant effect are:

- (1) Changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
- (2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the CSLC. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
- (3) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.²

A discussion of supporting facts follows each Finding.

- Whenever Finding (1) occurs, the mitigation measures that lessen the significant environmental impact are identified in the facts supporting the Finding.
- Whenever Finding (2) occurs, the agencies with jurisdiction are specified. These agencies, within their respective spheres of influence, have the responsibility to adopt, implement, and enforce the mitigation discussed.

These Findings are based on the information contained in the EIR and information submitted by the Applicant, all of which is contained in the administrative record. The mitigation measures are briefly described in these Findings; more detail on the mitigation measures is included in the Final EIR.

The CSLC is the custodian of the record of proceedings upon which its decision is based. The location of the CSLC's record of proceedings is in the Sacramento office of the CSLC, 100 Howe Avenue, Suite 100-South, Sacramento, CA 95825.

² See Public Resources Code section 21081, subdivision (a) and State CEQA Guidelines section 15091, subdivision (a).

A. SUMMARY OF FINDINGS

Based on public scoping, there were no environmental resource areas on which the proposed Project would result in No Impact. In addition, there were no environmental resource areas on which all potential impacts to the resource area were found to be Less than Significant.

For the remaining potentially significant effects, the Findings are organized by significant impacts within the EIR issue areas as presented below.

B. IMPACTS REDUCED TO LESS THAN SIGNIFICANT LEVELS WITH MITIGATION

The impacts identified below (within CSLC jurisdiction) were determined in the Final PEIR to be potentially significant absent mitigation; after application of mitigation, however, the impacts were determined to be less than significant. For the full text of each mitigation measure (MM), please refer to Exhibit B, Attachment B-1.

Resource	Impact
1. Aesthetic/visual resources	AV-1, AV-2, AV-3
2. Air quality	AQ-3
3. Biological resources	BIO-1, BIO-2, BIO-3, BIO-4, BIO-6, BIO-7, BIO-8
4. Cultural resources	CR-1, CR-2
5. Geology/soils	GS-1
6. Hazards and hazardous materials	HHM-1, HHM-2, HHM-4
7. Hydrology and water quality	WQ-1, WQ-2, WQ-3, WQ-4, WQ-5, WQ-6, WQ-7, WQ-8
8. Land use	LU-1, LU-2
9. Noise	N-1

1. AESTHETIC/VISUAL RESOURCES

CEQA FINDING NO. AV-1

Impact: **Impact AV-1. Potentially Significant Effect on Scenic Vistas.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Mechanical and chemical treatments can have short-term substantial and adverse effects on scenic vistas by creating brown, bare, or covered areas. Intensity depends on the extent of the treated area but changes in scenic vistas will be temporary. Substantial regrowth of native vegetation is expected to occur within one to 2 years of treatment.

Implementation of **Mitigation Measures (MMs) AV-1** and **AV-2** have been incorporated into the Project to reduce this impact to a less than significant level.

MM AV-1. Post Educational Signs.

MM AV-2. Limit covering.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. AV-2

Impact: **Impact AV-2. Potentially Significant Effect on Visual Continuity.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Physical and chemical treatments can temporarily but substantially and adversely affect visual continuity depending on the extent of treated area. Substantial regrowth of native vegetation is expected to occur within one to 2 years of treatment.

Implementation of **MM AV-1** has been incorporated into the Project to reduce this impact to a less than significant level.

MM AV-1. Post Educational Signs

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. AV-3

Impact: **Impact AV-3. Potentially Significant Effect Due to Vegetation Clearing.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Physical and chemical treatments can result in vegetation clearing, depending on the treatment method used. Substantial regrowth of native vegetation is expected to occur within one to 2 years of treatment.

Implementation of **MM AV-1** has been incorporated into the Project to reduce this impact to a less than significant level.

MM AV-1. Post Educational Signs

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

2. AIR QUALITY

CEQA FINDING NO. AQ-3

Impact: **Impact AQ-3. Herbicide Effects on Air Quality.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Spray application of herbicides and surfactants could result in chemical drift to populated areas. The potential for chemical drift is highly dependent on the proximity to populated areas, wind flow, equipment used, applicator nozzle size, and height application is conducted above ground. Drift from ground application can extend up to approximately 250 feet, with herbicide concentrations diminishing as the drift gets farther from the source. However, the herbicide sprayers would be used for a short period of time and in a manner consistent with its intended use.

Implementation of **MM HHM-4** has been incorporated into the Project to reduce this impact to a less than significant level.

MM HHM-4. Avoid Health Effects to the Public and Environment from Herbicide Application.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

3. BIOLOGICAL RESOURCES

CEQA FINDING NO. BIO-1

Impact: **Impact BIO-1. Effects on Special-Status Fish Species and their Critical Habitat and Essential Fish Habitat from Mechanical Spartina Removal Methods.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Special-status fish species may be present in channels adjacent to Spartina control efforts during any time of the year. If present, fish could be indirectly impacted by erosion caused by mechanical methods, resulting in increased turbidity. Increased turbidity could affect fish by interfering with gill function, reproduction or behavior (e.g., feeding or predator avoidance). Additionally, potential direct impacts could occur if fish are struck, injured, or killed by heavy equipment operating within a channel. Finally, the flooding control method could have a direct impact on fish by altering water quality and preventing fish movement.

Implementation of **MM BIO-1** has been incorporated into the Project to reduce this impact to a less than significant level.

MM BIO-1. Minimize Effects of Mechanical Spartina Removal Methods to Special-Status Fish Species.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. BIO-2

Impact: **Impact BIO-2: Effects on Special-Status Birds.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Breeding special-status birds may be temporarily affected by noise caused by Spartina control equipment and vehicles. Disturbance due to noise will depend on many factors such as proximity to the noise, the levels of ambient noise, the nature of ambient noise, and the ability of birds to habituate to new noise. Control methods that create a potentially significant high level of noise are brushcutters, and methods that require airboats (e.g., amphibious vehicles). In addition, northern harriers and short-eared owls may nest in the uplands adjacent to Spartina control areas, and their nests, which are located on the ground, could be directly impacted by Spartina control workers and equipment crossing these areas to reach Spartina.

Implementation of **MM BIO-2** and **MM BIO-3** has been incorporated into the Project to reduce this impact to a less than significant level.

MM BIO-2: Minimize Noise Effects.

MM BIO-3: Avoid Northern Harrier and Short-Eared Owl Nests.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. BIO-3

Impact: **Impact BIO-3: Direct and Indirect Effects to Special-Status Plant Species from Mechanical or Chemical Spartina Removal Methods.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Impacts to special-status plants from direct mechanical methods include accidental excavation, cutting, bruising, crushing, and mowing. Direct impacts from chemical methods include accidental contact with herbicides, resulting in disruption of plant metabolism and possible mortality. Indirect impacts from mechanical and chemical removal include compaction of soil, increasing erosion when soil is left exposed, exposing plants to greater light (if top mowing, for example) or to lesser light (if wrack and mulch cover special status plants). Indirect effects could also occur when direct mechanical or chemical methods result in harm but not mortality to special-status plants. Even with the implementation of MMs, some individual special-status plants may be impacted. However, there is an overall net benefit for special-status plant species of removing invasive Spartina.

Implementation of **MM BIO-4** has been incorporated into the Project to reduce this impact to a less than significant level.

MM BIO-4: Minimize Impacts to Special-Status Plant Species.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. BIO-4

Impact: **Impact BIO-4: Effects to Animal Species from Chemical Spartina Removal Methods.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

The herbicide that could be used for Spartina treatment is imazapyr. Imazapyr's effects on animal species, including shellfish species (cultured and wild), are potentially significant; however, there is evidence that, although imazapyr is highly toxic to plants, it

has very low toxicity to animals and a low potential for bioaccumulation and biomagnification.

Implementation of **MM HHM-2, MM WQ-1, and MM WQ-2** has been incorporated into the Project to reduce this impact to a less than significant level.

MM HHM-2: Accidents Associated with Release of Chemicals and Motor Fuel.

MM WQ-1: Managed Herbicide Control.

MM WQ-2: Minimize Herbicide Spill Risks.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. BIO-6

Impact: **Impact BIO-6: Potential Impacts of Mechanical and Chemical Methods to Eelgrass.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Any impacts to eelgrass generally require mitigation in the form of transplanting the eelgrass and/or creating new eelgrass habitat. Spartina has not been observed in close proximity to eelgrass. However, it is possible that Spartina and eelgrass could occur together. When conducted in mudflats, all of the Spartina removal methods have the potential to directly impact eelgrass. For example, eelgrass plants could be killed by application of herbicide, impact from a brush cutter or flaming.

Implementation of **MM BIO-5** has been incorporated into the Project to reduce this impact to a less than significant level.

MM BIO-5: Avoid Impacts to Eelgrass.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. BIO-7

Impact: **Impact BIO-7: Potential Effects on Marine Mammals.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Marine mammals, particularly harbor seals (*Phoca vitulina*), are abundant in the Management Area and could potentially be affected by sound generated from Spartina control activities. The sound produced will be short term and generally low, but the impact could be significant without mitigation. Implementation of **MM BIO-6** has been incorporated into the Project to reduce this impact to a less than significant level.

MM BIO-6: Reduce Noise near Marine Mammals.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. BIO-8

Impact: **Impact BIO-8: Direct Impacts to Nesting Northern Harrier and Short-Eared Owl.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

There is the potential for Northern harriers and short-eared owls to nest within the Project area. Both species nest on the ground in patches of dense, tall vegetation; therefore, their nests could be easily disturbed by Project activities.

Implementation of **MM BIO-3** has been incorporated into the Project to reduce this impact to a less than significant level.

MM BIO-3: Avoid Northern Harrier and Short-Eared Owl Nests.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

4. CULTURAL RESOURCES**CEQA FINDING NO. CR-1**

Impact: **Impact CR-1: Mechanical Treatments having Potentially Significant Impacts on Archeological Resources.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Mechanical treatments that disturb the soils (grinding, tilling, disking and digging/excavating) could damage historical or archaeological resources that were unknown to be present. Implementation of **MM CR-1** and **MM CR-2** has been incorporated into the Project to reduce this impact to a less than significant level.

MM CR-1: Worker Awareness.

MM CR-2: Site-Specific Planning for Artifacts.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. CR-2

Impact: **Impact CR-2: Mechanical Treatments having Potentially Significant Impacts on Human Remains.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

It is not likely that human remains occur in areas where Spartina treatment will occur (i.e., salt marshes, mudflats and riparian habitat). However, mechanical treatments that disturb the subsurface (grinding, tilling, excavation) could damage human remains that were unknown to be present. Implementation of **MM CR-1** and **MM CR-3** has been incorporated into the Project to reduce this impact to a less than significant level.

MM CR-1: Worker Awareness.

MM CR-3: Site Specific Planning for Human Remains.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

5. GEOLOGY/SOILS**CEQA FINDING NO. GS-1**

Impact: **Impact GS-1: Potentially Significant Loss of Soil from Mechanical Methods.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

There is potential for an increase in soil erosion and a resulting decrease in salt marsh elevation due to soil disturbing Spartina control methods (grinding, tilling, excavation). The erosion effects of soil disturbing Spartina control methods are likely more significant in areas that are prone to wave action. Implementation of **MM GS-1** has been incorporated into the Project to reduce this impact to a less than significant level.

MM GS-1: Erosion Control.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

6. HAZARDS AND HAZARDOUS MATERIALS

CEQA FINDING NO. HHM-1

Impact: **Impact HHM-1: Safety Concerns for Workers.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Implementation of manual or mechanical methods to treat non-native Spartina may result in injuries to workers during treatment activities. The impact would depend on the specific methods and equipment used and the size of the area to be treated. Workers involved in Spartina control could be exposed to the risk of cuts, bruises, burns or sprains associated with working in the mud, from manual labor and ignition sources, and the use of mechanized equipment. Workers would also be exposed to the risk of hearing damage from chronic exposure to equipment noise. Workers involved in manual spraying operations could be subject to similar types of mechanical injuries. Accidents involving machinery could cause serious injury, and falls might occur when traversing uneven terrain or upon contact with slippery soils.

Implementation of **MM HHM-1** has been incorporated into the Project to reduce this impact to a less than significant level.

MM HHM-1: Worker Injury from Accidents Associated with Manual and Mechanical Non-native Spartina Treatment.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. HHM-2

Impact: **Impact HHM-2: Accidental Spills.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

When equipment is operating, an accident could occur and motor fuel could be released into a marsh, riparian area, or waterway. Additionally, if chemical treatment options are selected, herbicides could also be released to the environment during an accident. Implementation of **MM HHM-2** has been incorporated into the Project to reduce this impact to a less than significant level.

MM HHM-2: Accidents Associated with Release of Chemicals and Motor Fuel.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. HHM-4

Impact: **Impact HHM-4: Existing Hazardous Waste Sites Near Potential Spartina Control Sites.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

The State of California GeoTracker database shows a number of cleanup sites present along the margins of Humboldt Bay, and some of these cleanup sites are located in areas where Spartina treatment activities may occur. Cleanup sites include facilities that are known or suspected to have released various hazardous chemicals, including dioxins, heavy metals, polychlorinated biphenyls (PCBs) and petroleum hydrocarbons. Existing hazardous waste could be released to the environment by Spartina control measures that disturb the soil (e.g., grind technique, excavating, disking).

Implementation of **MM HHM-6** has been incorporated into the Project to reduce this impact to a less than significant level.

MM HHM-6: Assess Existing Contamination.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

7. HYDROLOGY AND WATER QUALITY

CEQA FINDING NO. WQ-1

Impact: **Impact WQ-1: Degradation of Water Quality Due to Herbicide Application.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Treatment methods involving the use of herbicides have the potential to degrade water quality and subsequently affect beneficial uses of waters in the Management Area. Water quality could be affected by spills of herbicides. Research into the fate of surfactants and imazapyr in tidal (and other) habitats suggests that potential impacts to water quality and beneficial uses of waters of the State caused by spraying imazapyr mixtures in intertidal environments are likely to be small and temporary. Therefore, controlled applications (i.e., following label instructions) of registered herbicides are not expected to degrade water quality, except for to a very limited temporal and spatial extent.

Implementation of **MM WQ-1** has been incorporated into the Project to reduce this impact to a less than significant level.

MM WQ-1: Managed Herbicide Control.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. WQ-2

Impact: **Impact WQ-2: Herbicide Spills.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Large volumes of herbicide or surfactant if spilled or misapplied could degrade water quality and cause temporary toxicity. Implementation of **MM WQ-2** and **MM HHM-3** has been incorporated into the Project to reduce this impact to a less than significant level.

MM WQ-2: Minimize Herbicide Spill Risks.

MM HHM-2: Accidents Associated with Release of Chemicals and Motor Fuel.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. WQ-3

Impact: **Impact WQ-3: Fuel or Petroleum Spills.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Spills of gasoline or other petroleum products, required for operation of motorized equipment, into or near open water could degrade water quality, with potential for toxicity or contaminant bioaccumulation. Water quality impacts also may occur if ignition fluids such as gasoline used for burning were inadvertently sprayed or spilled to surface waters. These impacts to water quality would be potentially significant, but would be localized to the general vicinity of the spill and temporary.

Implementation of **MM WQ-3** and **MM HHM-2** has been incorporated into the Project to reduce this impact to a less than significant level.

MM WQ-3: Minimize Fuel and Petroleum Spill Risks.

MM HHM-2: Accidents Associated with Release of Chemicals and Motor Fuel.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. WQ-4

Impact: **Impact WQ-4: Pollutant/Contaminant Remobilization.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Treatment methods that include ground disturbance have the potential to expose sediments with higher levels of constituents, or more biologically available forms, including heavy metals and other contaminants such as PCBs and dioxin/furans. Treatment methods that include ground disturbance have the potential to expose and/or mobilize contaminated sediments which could result in a potential increased risk to water quality. If ground disturbance is conducted in areas with high concentrations of metals or pollutants, there is the potential to degrade water quality and contribute to exposure of marsh organisms to some level of constituents.

Implementation of **MM HHM-6** has been incorporated into the Project to reduce this impact to a less than significant level.

MM HHM-6: Assess Existing Contamination.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. WQ-5

Impact: **Impact WQ-5: Potentially Significant Loss of Soil from Mechanical Methods.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

There is potential for an increase in soil erosion and a resulting decrease in salt marsh elevation due to soil disturbing Spartina control methods (grinding, tilling, excavation). The erosion effects of soil disturbing Spartina control methods are likely more significant in areas that are prone to wave action. Implementation of **MM GS-1** has been incorporated into the Project to reduce this impact to a less than significant level.

MM GS-1: Erosion Control.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. WQ-6

Impact: **Impact WQ-6: Erosion/Sediment Control at Staging and Access Areas.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Temporary ground disturbance associated with site ingress/egress, staging, stockpiling and equipment storage areas could occur in areas outside and adjoining the treatment areas. These temporarily disturbed areas have the potential to impact water quality resulting from erosion and sediment mobilization. Rain and wind-induced erosion from these temporary disturbed areas could carry soil contaminants (e.g., nutrients or other pollutants) into waterways adjacent to the treatment areas, degrade water quality, and potentially violate water quality standards for specific chemicals, dissolved oxygen (DO), suspended sediment, or nutrients.

Implementation of **MM WQ-6** has been incorporated into the Project to reduce this impact to a less than significant level.

MM WQ-6: Designate Ingress/Egress Routes.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. WQ-7

Impact: **Impact WQ-7: Decreased Oxygen in Receiving Waters.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Treatment techniques that increase and leave in place above ground biomass (wrack) could potentially result in decreased DO in receiving waters during the decay period, depending on where and how the wrack is deposited. Tidal currents and wind-induced waves could transport the wrack and debris into adjacent waters with low DO. In areas of poor tidal circulation, wrack and debris may accumulate, and further impede tidal exchange, further degrading DO.

Implementation of **MM WQ-7** has been incorporated into the Project to reduce this impact to a less than significant level.

MM WQ-7: Removal of Wrack.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. WQ-8

Impact: **Impact WQ-8: Placement of Temporary Structures in a FEMA Flood Zone.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Placement of temporary dikes or structures to impound water to create prolonged inundation could displace and reduce floodplain/floodway carrying capacity within a special flood hazard zone. Implementation of **MM WQ-8** has been incorporated into the Project to reduce this impact to a less than significant level.

MM WQ-8: Approval of Structures in Floodplains.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

8. LAND USE**CEQA FINDING NO. LU-1**

Impact: **Impact LU-1: Herbicide Overuse or Overspray.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Herbicide overuse and overspray, or inaccurate spray, could occur on agricultural lands in the Management Area vicinity. Implementation of **MM LU-1, MM LU-2, and MM LU-3** has been incorporated into the Project to reduce this impact to a less than significant level.

MM LU-1: Use Certified Herbicide Applicators.

MM LU-2: Compliance Monitors.

MM LU-3: Mechanical Methods near Agriculture.

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

CEQA FINDING NO. LU-2

Impact: **Impact LU-2: Public Access.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

Mechanical or chemical treatments can be unsafe to the general public, thus affecting public access. Most treatment areas are in tidal marshes that are not accessed by the general public. However, some treatment areas, such as PALCO Marsh and Bracut Marsh, may have trails or upland areas adjacent to them where public access could be affected. Implementation of **MM LU-4 and MM LU-5** has been incorporated into the Project to reduce this impact to a less than significant level.

MM LU-4: Posting Notices and Limiting Access.**MM LU-5: Do Not Treat Spartina During Peak Public Use Periods.**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.

9. NOISE**CEQA FINDING NO. N-1**

Impact: **Impact N-1: Noise Impacts to Residential Areas.**

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the PEIR.

FACTS SUPPORTING THE FINDING(S)

If homes are within 3,200 feet of the Project's use of multiple brushcutters, the L_{max} for residentially zoned areas could be exceeded. However, attenuation is likely through topography, vegetation, and structures. Attenuated sound may not be perceived above ambient noise. Noise from the Marsh Master could exceed noise standards, if residential receptors are within 800 feet. Sound would likely be masked by Highway 101 within 200 feet. Implementation of **MM N-1, MM N-2, and MM N-3** has been incorporated into the Project to reduce this impact to a less than significant level.

MM N-1: Use Relatively Quiet Brushcutters.**MM N-2: Selective Use of the Marsh Master.****MM N-3: Limit Hours of Operation.**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation described above, this impact is reduced to a less than significant level.